

# verses! foiled again!

structural

## The Destination

Where This Challenge Will Take You!

Using Wood, Foil and Glue,  
make a Structure that's strong.

A character gets Foiled!  
But just what went wrong?

Tell us a story, make the weight  
stack grow;

Have us laugh, maybe cry,  
and it's on with the show!

## Points of Interest!

Your Team Will:

- Design and build a Structure made only of Aluminum Foil, Wood and Glue
- Test how much weight the Structure will hold
- Present a Story about a character that is Foiled
- Integrate team-written Verse and published Verse into your Story

This  
Challenge  
can be solved  
on many levels,  
with solutions  
ranging from very  
simple to very  
complex.

Sponsored by

# 3M

**In order to successfully solve this Challenge, teams must read and follow:**

### **Team Challenge**

- A. The *Central Challenge* (240 points)
- B. *Side Trips* (60 points)
- C. Special Procedures for the Structure Challenge
- D. Reward Points

### **Rules of the Road**

### **Published Clarifications**

(online at [www.IDODI.org](http://www.IDODI.org))

The information in these materials is binding for all teams.

Team Managers are strongly encouraged to read and use:

- ☐ *Team Manager Guide*
- ☐ *Instant Challenge Practice Set*
- ☐ *TravelGuide for Teams* (available online after Jan 1, 2011)

## **Educational Focus**

Architectural Design, Structural Engineering, Construction, Material Science, Research, Innovation and Design Process, Mathematics, Theater Arts, Poetry, Teamwork

## **Time Limit**

The team must complete the Presentation (including setup and Structure testing) in eight minutes.

## **Team Budget:**

The total value of the materials used in the Presentation may not exceed \$100US.

## **Roadmap for Success**

This Challenge can be solved on many levels, ranging from the simple to the complex.

We recognize that there are different ways to be creative. This Challenge is designed to engage all types of creativity—including off-the-wall, outlandish thinking, analytical thinking, and everything in between. Please approach this Challenge in the true spirit of Destination ImagiNation: try foremost to solve the Challenge. If you find the intent or any of the details of the Challenge unclear, we encourage you to ask for a Clarification. (See the *Rules of the Road*.) Remember—if it doesn't say you can't, then you can. However, if it says you "must" perform specific requirements, then those requirements have to be met.

## **Team Number**

Teams and individuals using these Program Materials must hold 2010-11 Team Numbers. The Destination ImagiNation Team Number is a license to compete in sanctioned Tournaments and/or to use the Program Materials for educational purposes within your team, school, group or organization. Online access to Program Materials for teams who have purchased Team Numbers is available at [www.IDODI.org](http://www.IDODI.org).

- ☐ My 2010-11 Team Number is: \_\_\_\_ - \_\_\_\_
- ☐ My team is planning to compete in a sanctioned Tournament.
- ☐ I have registered for that Tournament with the:
  - ☐ Regional or
  - ☐ Affiliate Director

## A. THE CENTRAL CHALLENGE (240 POINTS)

1. **The Intent of the Challenge:** To solve this Challenge, the team must build a Structure made entirely of Aluminum Foil, Wood, and Glue. The team must test the Structure's strength by placing weights upon it at the Tournament. The team must also create and present a Story about a character that is Foiled. The Story must include Verses, both Published and Team-Written. Additionally, the team must build a prop or piece of scenery using only Aluminum Foil, Wood and Glue.
2. **Designing and Building the Structure:** Buildings and other objects are made of many different materials. Some materials are rigid and some are flexible. The materials for building are sometimes small and sometimes big. The team will use only thin sticks of Wood, sheets of Aluminum Foil, and Glue to hold the materials together. Below are the guidelines for the Structure your team will build.
  - a. The team must design and build a Structure, made only of Aluminum Foil, Wood and Glue, that will be tested at the Tournament. Teams are encouraged to build and test many structures before they come to the Tournament.
  - b. The team must design the Structure so that the team can place it on the Structure Tester at the Tournament for testing. The team will test how much weight the Structure can hold by stacking a Pressure Board and weights on it. (Figures A, B and C show diagrams of a Structure Tester.)
  - c. Team members must do all tooling and/or shaping of the Aluminum Foil, Wood and Glue.
  - d. **The team must not use any type of technology** that designs, creates or aids in the testing of the Structure based on input of the Challenge specifications. The team must make any **Jig(s)** it uses in the construction of the Structure. See Special Definition at right.
3. **Structure Specifications:**
  - a. **Materials:** The Structure must be made entirely of **Aluminum Foil**, **Wood** and **Glue**. See Special Definitions at right. It cannot include any other materials. Teams may use as much or as little of each material as they wish, but *all three materials must be present* in the Structure. The team may use more than one type of Wood, more than one thickness of Aluminum Foil, and/or more than one type of Glue in building the Structure.
    - i. All Wood that **Elementary Level** teams use in their Structures must be no larger than 1/4in x 1/4in x any length (6.36mm x 6.36mm x any length). All Wood that **Middle Level** teams use in their Structures must be no larger than 1/8in x 1/8in x any length (3.18mm x 3.18mm x any length). All Wood that **Secondary Level and University Level** teams use in their Structures must be no larger than 1/16in x 1/16in x any length (1.59mm x 1.59mm x any length). Teams may cut sticks of Wood that meet these dimensions from larger pieces of Wood to use in building their Structure.
    - ii. All Aluminum Foil that the team uses in the Structure must be commercially available Aluminum Foil sold in rolls or sheets from which pieces can be cut. Aluminum Foil that is less than or equal to 200 micrometers (.008in) in thickness is acceptable. Most

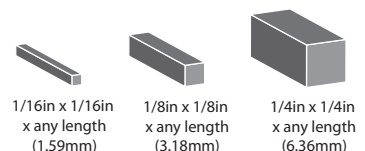


### Special Definitions

**Jig:** A template or guide the team uses to help in building the Structure.

**Wood:** A natural substance found under the bark of any type of tree. The Wood used in the structures must be 100% natural. The following are NOT acceptable: Cork, man-made substances that simulate natural Wood (examples: plywood, commercially available laminates or fiberboard), or are made from Wood and any other material (examples: paper, cardboard), and tree-like substances (examples: bamboo, grasses).

**Glue:** Any commercially available adhesive material capable of creating a permanent bond.





## Special Definitions

**Lamination:** Gluing layers of Wood or Aluminum Foil together in order to increase strength.

regular and heavy duty Aluminum Foil available in retail stores meets these requirements.

- iii. The team *must not melt* and re-form Aluminum Foil for use in the Structure.
- iv. The team must not apply anything other than Glue to the surface of the Wood and Aluminum Foil used in the Structure. The team must not soak anything other than water into the Structure materials.

**Safety Note:** Teams must read and follow all instructions and safety precautions on the labels or Materials Safety Data Sheets of any Glues they use. If teams use Epoxy Glue or “Super Glues,” they must use them in ventilated areas, with a de-bonder close at hand. Team members must be careful not to touch their eyes or anything else if Glue gets on their hands. Teams should have adult supervision while using Glue.

- v. Teams may glue pieces of Wood and/or pieces of Aluminum Foil together to form **Laminations** in the structure. See Special Definition at left.
  - vi. Incidental marks such as pencil or pen marks on the Aluminum Foil and/or Wood are allowed.
  - vii. Appraisers will inspect the materials used in the Structure during Structure Check-In. (See C.2.) If necessary, the Appraisers will examine the materials again after the team tests the Structure. The team is encouraged to bring samples of the Aluminum Foil and Wood they used to the Tournament. Teams should be prepared to supply the container for any Glue they used to build the Structure.
- b. **Weight of the Structure:** The total weight of the Structure must not exceed 25 grams for Elementary Level teams, 20 grams for Middle Level teams and 15 grams for Secondary and University Level teams.
  - c. **Height of the Structure:** The Structure’s height must be at least 7.5in (19.1cm) and no more than 9in (22.9cm).
  - d. **Specifications for Testing:**
    - i. When the Structure is completed for testing, it **MUST** be a single unit. A Structure might be constructed of many individual pieces, but at the beginning of testing, it must be one unit. Multiple free-standing pieces placed on the Tester will not meet Challenge requirements.
    - ii. The Structure must fit on the Structure Tester. (See C.4.) An opening that can easily accept a circular column with an outside diameter of 2in (5.1cm) must run the entire height of the Structure. This is to be sure the Structure will fit easily around the 1in (2.54cm) Safety Pole on the Structure Tester, but not through the hole in the Pressure Board.
    - iii. When the Structure sits on the Tester Base, it must fit completely within the Tester Base and around the Safety Pole.
    - iv. The only places the Structure may make contact with the Structure Tester are the top surface of the Tester Base, the bottom surface of the Pressure Board, and the Safety Pole.

#### 4. Weight Held Measurement Procedure:

- After the Presentation time begins, the team will place the Structure over the Safety Pole so that the Structure rests only on the Tester Base. The Structure may touch the Safety Pole.
- The team may start weight placement at any time once the Presentation time begins. (See C.4 for weight placement details.)
- After the Presentation time ends, the Weight Placement Appraiser will note the weight that the Structure held. This is called the Official Weight Held, which includes the weights and the Pressure Board. Only the weights that are physically on the Pressure Board when weight placement ends are included in the Official Weight Held.
- The Weight Held Ratio (WHR) is the Official Weight Held in pounds divided by the Structure's weight in grams (measured to the nearest tenth of a gram), rounded to two decimal places.

### Weight Held Ratio =

**Official Weight Held in pounds ÷ the Structure's weight in grams**

For example, if the Official Weight Held is 195 pounds and the Structure's weight is 11.6 grams, the Weight Held Ratio is 16.81 ( $WHR = 195 \div 11.6 = 16.81$ ).

- Structure Scoring:** It is the intent of the Challenge that the team will create a Structure according to the specifications in A.3, and will test the Structure at the Tournament.
  - If the Structure does not meet the specifications in A.3, and if the team is unable to bring the Structure into compliance with the specifications, the Official Weight Held will be zero. However, the team may still present its solution and earn points for other Challenge requirements.
  - Any team that does not make a "good faith" attempt to present a Structure for testing may earn points for other Challenge requirements, but it may not advance to the next level of Tournament competition. The Appraisers will make this determination. Their decision is final.
  - The team will earn points for the Structure based on:
    - The Weight Held Ratio.
    - The Creative Structural Use of Aluminum Foil in the Structure Design.
- Story with Verses and Prop or Scenery:** The team must create a Story about a character that is Foiled. The team will present the Story at the Tournament. Verses from poetry or song lyrics and a prop or piece of scenery made of only Aluminum Foil, Wood and Glue will help the team present its Story.
  - During the Story a character must be Foiled. For the purpose of this Challenge, a character is Foiled when someone or something prevents that character from succeeding. The Story may or may not show that character succeeding after being Foiled.
  - The Story must include a Team-Written **Verse**. See Special Definition at right. The Story must also include a Published Verse written by non-team members. Verses in the Story can be in the form of poetry or song lyrics. Verses come in many different forms and styles. The team may choose any style for the Verses it includes in the Story.
    - The team must write an original Verse to include in the Story.
    - The team must also select a Published Verse written by a non-team member. The intent is for the team to explore other poets,



### Special Definitions

**Verse:** Lines of poetry or lyrics from a song. The lines do not need to rhyme.

songwriters or authors. However, it does not matter where or how the Verse was published as long as team member(s) did not write the Verse.

- iii. The Verses must each be at least four lines. There is no maximum length for the Verses.
- iv. The team must cite the publication on the *Tournament Data Form*. If the team does not submit the required citation, it will not receive a score for Presentation and Integration of the Published Verse into the Story. (See D.3.c.) The citation must include the author/songwriter, title and publisher of the Verse. The citation must also include any other available information about the source that would help someone to locate the source. For example, information about the publication date or Web site address should be provided, if available.

**Note:** Please be sure to refer to the Copyrights and Trademarks section of the *Rules of the Road* to find the rules concerning use of copyrighted materials in the team's Presentation.

- v. The team may choose any method for presenting the Team-Written Verse and the Published Verse in the Story. The presentation of the Verses should be integrated into the Story and will earn points based on this integration.
  - vi. Verses will be scored based on how they are presented during the team's Presentation. The team will describe on the *Tournament Data Form* how the Appraisers can recognize which Verses to score. The team should also submit copies of the Verses with its *Tournament Data Forms*. The team will not receive a deduction if it does not submit copies of the Verses. However, submitting written copies of the Verses will assist the Appraisers in recognizing the Verses during the Presentation.
- c. The team will build a prop or piece of scenery made only of Aluminum Foil, Wood and Glue. Like the team Structure, the prop or piece of scenery must not include any other materials. Unlike the team Structure, there is no limit to the size of wood pieces used to build this prop or scenery piece. The team may include additional props and/or scenery made of any materials in its Presentation, but only the prop or piece of scenery listed on the *Tournament Data Form* will receive points for this scoring element.
- d. The team will earn points for:
- i. The creativity of the Story, including how a character is Foiled.
  - ii. Presentation and integration of the Team-Written Verse into the Story.
  - iii. Presentation and integration of the Published Verse into the Story.
  - iv. The Creativity and Workmanship of the prop or piece of scenery made only of Aluminum Foil, Wood and Glue.
7. **Team Identification Sign:** The team should provide a free-standing Identification Sign of approximately 2ft x 3ft (0.61m x 0.91m) displaying your team's Team Name, Team Number, School/Organization (if different from Team Name) and Level. The team cannot use the sign as a scoring element. See "Team Identification Sign" section in *Rules of the Road* for further information.

## B. SIDE TRIPS (60 POINTS)

In addition to the above requirements, the team must present TWO creations, called *Side Trips*, that show off the team members' interests, skills, areas of strength, and talents. Team members may create anything they wish for *Side Trips* including props, music, technical gadgets, costumes, physical actions, etc.

1. The team must present both *Side Trips* as part of the eight-minute Presentation, and each *Side Trip* should have a meaningful connection to the team's Central Challenge solution. The team must briefly describe each *Side Trip* on the *Tournament Data Form* found at the end of this Challenge.
2. A *Side Trip* may not be a specific item that is already scored in the *Central Challenge*. A *Side Trip* MAY be a single unique PART of a required item, as long as it can be evaluated as a standalone item. The team may present both *Side Trips* at the same time ONLY IF both can be easily identified and scored separately. The team can find examples of these in the *Rules of the Road*.
3. Each *Side Trip* will be evaluated in three ways: for the Creativity and Originality of the *Side Trip*; for the Quality, Workmanship, and/or Effort that is evident; and for the Integration of the *Side Trip* into the Presentation. Evaluation of *Side Trips* is subjective.

## C. SPECIAL PROCEDURES FOR THE STRUCTURE CHALLENGE

### 1. The Presentation Site:

- a. The minimum dimensions of the Presentation Site will be 16ft x 16ft (4.88m x 4.88m). In most cases, this area will not be marked on the floor. When possible, the Tournament may provide a larger Presentation Site. The team may use all of the Presentation space available at the site, but it must be prepared to present in the minimum area specified. The team should keep in mind that the weights and Structure Tester will occupy a portion of the Presentation Site.
- b. The team must not move the Structure Tester from its location.
- c. A 3-prong AC electrical outlet will be provided at least to the edge of the Presentation Site.

### 2. The Structure Check-In Procedure:

- a. Prior to the team's Presentation time, at a time designated by the Tournament Director of each Tournament, the team will bring its Structure and a completed copy of Page 2 of the *Tournament Data Form* to the Structure Check-In Area. The purpose of Structure Check-In is to determine whether the Structure meets the Challenge specifications. The Structure Check-In Area may be at a separate location from the Presentation Site.
- b. The Structure Check-In Appraisers will always avoid touching the Structure.
- c. The Structure Check-In Appraisers will instruct the team to place its Structure on the scale. Once the scale reading stabilizes, the Structure Check-In Appraisers will verify that it does not exceed 25 grams for Elementary Level teams, 20 grams for Middle Level teams or 15 grams for Secondary and University Level teams. The official Structure weight will be recorded to the nearest tenth of a gram on the Structure Check-In Form.



- d. Next, the Structure Check-In Appraisers will make sure that the team can legitimately test the Structure using a representation of the Tester Base. **A team member must place the Structure on the representation of the Tester Base so that a 2in (5.1cm) outside diameter cylinder easily passes through the Structure. The Structure must be able to stand on the representation of the Tester Base without team members holding it.** The Appraisers will validate that the Structure does not touch the Safety Supports or Safety Shields.
- e. While the Structure rests on the representation of the Tester Base, the Appraisers will measure it. They will verify that the Structure is at least 7.5in (19.1 cm) and not more than 9in (22.9 cm) high.
- f. The Check-In Appraisers will make sure that the Structure is constructed using only Aluminum Foil, Wood and Glue.
- g. The Check-In Appraisers will make sure that all Wood pieces meet the size requirements. Teams must use Wood pieces no larger than:  
**Elementary Level:**  
 1/4in x 1/4in x any length (6.36mm x 6.36mm x any length)  
**Middle Level:**  
 1/8in x 1/8in x any length (3.18mm x 3.18mm x any length)  
**Secondary and University Level:**  
 1/16in x 1/16in x any length (1.59mm x 1.59mm x any length)
- h. The Check-In Appraisers will reserve the right to recall the Structure to the Check-In Area after the team's Presentation to verify the team used only sticks of Wood that meet the requirements for maximum dimensions. If the Check-In Appraisers want the Structure returned following the Presentation, they will note it on the Structure Check-In Form.
- i. The Structure Check-In Appraisers will make every effort, within reasonable scheduling constraints, to allow the team the time to bring its Structure into compliance with the above specifications. Any team whose Structure does not meet the above specifications will receive an Official Weight Held of zero. However, the team may still present its solution and earn points for other Challenge requirements.
- j. The Structure Check-In Appraisers will evaluate the Creative Structural Use of Aluminum Foil in the Structure Design and note the scores on the Structure Check-In Form. (See A.5.c.ii.)
- k. When Structure Check-In is complete, the team will place its Structure into a team-supplied storage container and the Structure Check-In Appraisers will seal the container. The Structure and the Structure Check-In Form must remain in a designated place in the Structure Check-In Area until approximately 20 minutes before the team's scheduled Presentation time.
- l. Approximately 20 minutes before the team's scheduled Presentation time, one or more team members must return to the Structure Check-In Area to collect the Structure and carry it to the Prep Area at the Presentation Site. Team members must not break the seal on the storage container until the Prep Area Appraiser directs the team to do so.
- m. If a team arrives in the Prep Area with a Structure storage container with a broken seal, the team will be required to return to Check-in to have the Structure re-checked.



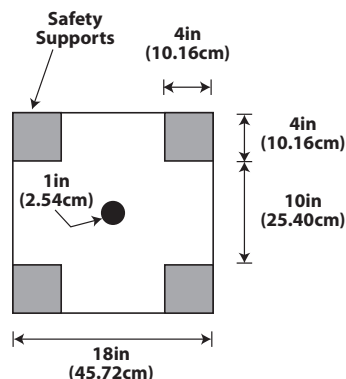
### 3. Testing the Structure:

- a. During the Presentation, the team will demonstrate the Structure's ability to support weight using the Structure Tester and weights that the Tournament Director provides.
- b. After the Presentation time begins, the team will place the Structure around the Safety Pole and on the Tester Base in the same manner as it did in Check-In. The team may adjust its Structure on the Tester Base as needed to place the Structure to its satisfaction before beginning weight placement.
- c. Team members may remove the Safety Shields as they place the Structure on the Structure Tester. Team members must put the Safety Shields back into place before they begin weight placement.
- d. Structure testing begins when the Pressure Board is placed on the Structure.
- e. The team must not move the Structure Tester from its location. The team must not use the weights or the Structure Tester for any purpose other than testing the Structure during the Presentation.

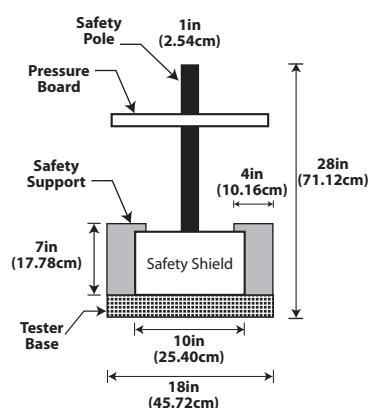
### 4. Weight Placement Specifics:

- a. **Structure Tester and Weights:** The Tournament will provide a Structure Tester shown in Figures A, B, and C and with the dimensions listed in **Table One**. All weights will be **Olympic style metal plates with a 2in (5.1cm) hole in the center**. The range of weights available may vary from Tournament to Tournament. The team may check with the Tournament Director for specific weights available. The pressure board counts as the first weight.
- b. The Structure Tester will sit within the Presentation Area.
- c. During the weight placement, team members must:
  - i. Use the Structure Tester and weights the Tournament Director provides
  - ii. Determine the order in which they will place weights on the Structure Tester
  - iii. Select the weights they will place on the Structure Tester
  - iv. Place weights over the Safety Pole one at a time onto the Structure Tester
- d. The Pressure Board must be the first weight the team places upon the Structure. (See Figure B.) **The Pressure Board will be clearly marked with its official weight, rounded to the nearest pound.** One or more team members may touch the Structure while they place the Pressure Board upon the Structure.

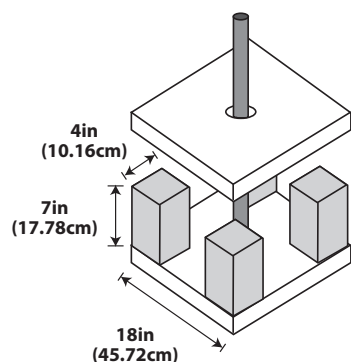
**Note:** If the team wishes to know the specifics of the Structure Tester for its Tournament (i.e., the height of the Tester Base, the thickness of the Pressure Board, and/or the actual weight of the Pressure Board), it may check with the Tournament Director.



**Figure A: Top View  
Structure Tester**



**Figure B: Side View  
Structure Tester**



**Figure C: Isometric View  
Structure Tester**

**Table One: Dimensions of Tester**

TESTER COMPONENT	INCHES	CENTIMETERS	NOTES
Tester Base	18in x 18in	45.72cm x 45.72cm	The thickness may vary at different Tournaments
Pressure Board	18in x 18in	45.72cm x 45.72cm	The thickness may vary at different Tournaments
Pressure Board hole	2in	5.1cm	
Safety Support height	7in	17.78cm	Measured from the top surface of the Tester Base to the top of the Support.
Safety Support width	3.25in–4in	8.26cm–10.16cm	
Safety Pole height	28in	71.12cm	Measured from the floor to the top of the pole.
Safety Pole diameter	1in	2.54cm	The Representation of the Tester Base used in Structure Check-In will use a 2in (5.1cm) cylinder.

- e. Team members must not touch the Structure or the Structure Tester after placing the Pressure Board unless they first remove all weights (including the Pressure Board). If the team wants to make any adjustment to the Structure's placement during the Presentation, the team must first remove all weights (including the Pressure Board). Presentation time will not stop.

**Safety Notes:**

- When a team member's head is below the level of the Pressure Board AND the Safety Shield in front of the team member's face is not in place, that team member must wear protective goggles for safety. When the team member's head is no longer below the level of the Pressure Board, or when the Safety Shield is in place, the team member may remove the goggles. The team must provide its own goggles. Because they are used only for safety, goggles are exempt from cost on the Expense Report form.
  - Under no circumstances may a team member touch or come into contact with a weight stack that is rotating or moving.
  - Team members and the Adult Assistant who are placing weights must wear closed-toe shoes.
  - When placing a weight, team members should keep their fingers on the sides of the weight so that they do not pinch their fingers.
  - When moving weights, teams should check that there is a clear path to the Structure Tester.
- f. The Structure must support a weight for a minimum of four seconds, as counted by an Appraiser, for that weight to be included in the

Structure's Official Weight Held. The four-second count for a weight that has been placed begins when no hands are touching any weight on the weight stack. The team does not need to wait four seconds before adding additional weights. The Appraiser's count is final.

**g. Safety Pole Extension Pipes:**

- i. At Regional Level Tournaments, the team may use no extension pipes.
- ii. At Affiliate Level Tournaments, the team may use **One 12in (30.5cm)** extension pipe.
- iii. At the Global Finals Tournament, the team may use **Two 12in (30.5cm)** extension pipes.
- iv. For safety, teams must add the extension pipe, if allowed as stated above, to the top of the Safety Pole once the weight stack reaches the 1in (2.5cm) mark on the original Safety Pole or the extension pipe.

**h. Adult Assistant:** Elementary Level and Middle Level teams may elect to use an Adult Assistant to help place or remove weights of **25lbs (11.34kg) or more**. Team members must direct the placement or removal and support the weight to the best of their ability if they use an Adult Assistant. The Adult Assistant:

- i. May assist in the placement or removal of weights weighing 25lbs (11.34kg) or more. For the purpose of this Challenge, assist means that an adult may help a team member or team members lift, move and set a weight that the team member(s) might not otherwise be able to handle alone. Your team member(s) must actively participate in lifting and carrying the weight to the weight stack.
- ii. Must wait in an area the Appraisers designate until a team member directs him or her to move towards the weights. The team member will direct the Adult Assistant to the specific weight for which they want assistance.
- iii. Must return to the designated waiting area at any time that a team member is not actively directing him or her to assist with placement or removal of a weight.
- iv. Must only respond to directions from team members or Appraisers.
- v. Must not direct weight placement or removal in any way. If, in the opinion of the Appraisers, the Adult Assistant is directing **ANY** aspect of weight selection or placement or removal, the Appraisers will halt weight placement or removal, warn the Adult Assistant of the inappropriate action and remind him/her of the team's responsibility. The Appraiser will instruct the team to remove any weight(s) that it placed with excess adult assistance or direction. Weight placement or removal will then resume. Presentation time will not stop.
- vi. If the Adult Assistant engages in any further inappropriate activity, the Appraisers will direct him/her to withdraw from the Presentation Site. Team members must then place or remove any additional weights **without** the aid of an Adult Assistant and will be limited to weights of **less than 25lbs (11.34kg)**.
- vii. Weights placed with inappropriate adult assistance or direction will not count towards the calculation of the Official Weight Held.

- i. **The weight placement portion for the testing of the Structure will end when any of the following occur:**
  - i. The team elects to stop weight placement. The team may do this at any time during the eight-minute Presentation. If the team indicates that testing is completed before the end of the eight-minute time limit, the weights must remain on the Structure Tester until counted by an Appraiser.
  - ii. The Pressure Board or the Structure touches any of the four Safety Supports or any of the Safety Shields of the Structure Tester. A weight that causes the Pressure Board or the Structure to touch the Safety Supports prior to the completion of the 4-second count will not count towards the Official Weight Held total. If the Weight Placement Appraiser cannot slide a single sheet of paper between the Pressure Board and the Safety Support, this means that the Pressure Board is touching the Safety Supports.
  - iii. The placed weights reach the mark that is 1in (2.5cm) below the top of the Safety Pole or the extension pipes, when used. The team must not place any further weights on the stack once the weights reach the 1in (2.54cm) mark below the top of the original safety pole or the topmost extension pipe, when used. The mark does not have to be visible at that point, but the team must not add any more weights once the weight stack is at or above the mark.
  - iv. The eight-minute time limit ends.

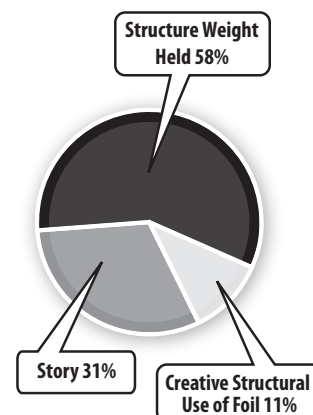
**Note:** Teams may use the entire eight-minute Presentation time for weight placement, regardless of whether or not it has ended the performance of its Story.

## D. REWARD POINTS

ELEMENT		POINTS	DETAIL
<b>CENTRAL CHALLENGE</b>		<b>UP TO 240</b>	
1.	<b>STRUCTURE WEIGHT HELD RATIO</b> <ul style="list-style-type: none"> <li>In each competitive Level, the Structure with the highest Weight Held Ratio will receive 140 points.</li> <li>The score for all other teams in that Level will be based on the percentage of their Structure's Weight Held Ratio compared to the highest Weight Held Ratio in that level.</li> </ul> <p><b>Team's score = (WHR ÷ highest WHR in Level) × 140</b></p> <ul style="list-style-type: none"> <li>This score added to the scores the team earns for the items listed below will equal the total Raw Score.</li> </ul>	<b>UP TO 140</b>	
		Up to 140	A.5.c.i
2.	<b>Creative Structural Use of Aluminum Foil in the Structure Design</b>	<b>UP TO 25</b>	A.5.c.ii
3.	<b>STORY WITH VERSES AND PROP OR SCENERY</b>	<b>UP TO 75</b>	
	a. Creativity of the Story, including how a character is Foiled	Up to 20	A.6.d.i
	b. Presentation and integration of the Team-Written Verse into the Story	Up to 20	A.6.d.ii
	c. Presentation and integration of the Published Verse into the Story	Up to 10	A.6.d.iii
	d. Creativity and Workmanship of prop or piece of scenery made only of Aluminum Foil, Wood and Glue	Up to 25	A.6.d.iv

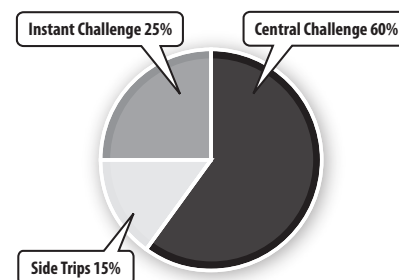
<b>SIDE TRIPS</b>		<b>UP TO 60</b>	
4.	<b>SIDE TRIP 1</b>	<b>UP TO 30</b>	
	a. Creativity and Originality	Up to 10	B.3
	b. Quality, Workmanship, or Effort that is evident	Up to 10	B.3
	c. Integration into the Presentation	Up to 10	B.3
5.	<b>SIDE TRIP 2</b>	<b>UP TO 30</b>	
	a. Creativity and Originality	Up to 10	B.3
	b. Quality, Workmanship, or Effort that is evident	Up to 10	B.3
	c. Integration into the Presentation	Up to 10	B.3

### Team Challenge Scoring at a Glance



TEAM CHALLENGES

### Putting It All Together



# Tournament Data Form

## Challenge E: Verses! Foiled Again

Page 1 of 2

Team Name: \_\_\_\_\_ Team Number: \_\_\_\_ - \_\_\_\_

School/Organization: \_\_\_\_\_ Level: EL ML SL UL

Dear team and Team Manager(s): Help your Appraisers identify the required elements of your Challenge solution so they can award you all of the points you have earned. Please fill this form out completely and neatly. For Elementary Level teams only: Team Managers MAY fill out the form, writing out the words dictated by the team.

### A: Paperwork

Required Paperwork: At the Tournament Presentation Site, the Prep Area Appraiser will ask for your team's forms. A complete checklist of the required forms is below. None of the forms listed below can be used as a scoring item.

#### Your team needs:

- ☐ Five copies of this completed two-page *Tournament Data Form*. Be sure to copy both pages of this form. This is PAGE ONE of the form. Page Two may be copied onto the back of this sheet.
- ☐ Two copies of the completed *Declaration of Independence*. Blank copies of this form can be found in the *Rules of the Road*. One copy of this form is for *Team Challenge*, the other copy of is for you to take to *Instant Challenge*.
- ☐ One copy of the completed *Expense Report*. This form can be found in the *Rules of the Road*. Be sure to bring copies of your receipts in case you are asked for them, but it is not necessary to attach them to the form.
- ☐ Team Identification Sign: This will tell the Appraisers and the audience who you are. It must list your Team Name, Team Number, School/Organization (if different from Team Name), and Level. It cannot be scored. See the *Rules of the Road* for more information.
- ☐ Published Clarifications: We have read and are aware of the Published Clarifications on [www.IDODI.org](http://www.IDODI.org).

### B: Brief Description of Side Trips

Side Trip 1 : What is your Side Trip? \_\_\_\_\_

Please write a brief description of your *Side Trip*. Make sure that Appraisers know exactly what you want them to evaluate. What would you like them to know about the *Side Trip*?

Side Trip 2 : What is your Side Trip? \_\_\_\_\_

Please write a brief description of your *Side Trip*. Make sure that Appraisers know exactly what you want them to evaluate. What would you like them to know about the *Side Trip*?

# Tournament Data Form

## Challenge E: Verses! Foiled Again

Page 2 of 2

Team Name: \_\_\_\_\_ Team Number: \_\_\_\_\_ - \_\_\_\_\_

School/Organization: \_\_\_\_\_ Level: EL ML SL UL

### C: Brief Description of Challenge Information

1. **Structure Specifications:** Check to make sure your Structure meets these specifications. (See Part A.)

- ☐ The Structure is constructed of only Aluminum Foil, Wood and Glue. Each piece of Wood is no larger than 1/4in x 1/4in x any length (6.36mm x 6.36mm x any length) for Elementary Level teams, 1/8in x 1/8in x any length (3.18mm x 3.18mm x any length) for Middle Level teams, and 1/16in x 1/16in x any length (1.59mm x 1.59mm x any length) for Secondary and University Level teams. (See A.3.a.i.)
- ☐ The weight of the Structure does not exceed 25 grams for Elementary Level teams, 20 grams for Middle Level teams, or 15 grams for Secondary and University Level teams. (See A.3.b.)
- ☐ The Structure is between 7.5in (19.1cm) and 9in (22.9cm) high. (See A.3.c.)
- ☐ The Structure has an opening running its entire height that can accept a circular column with an outside diameter of 2in (5.1cm). (See A.3.d.ii.)
- ☐ The Structure can rest upon the Tester Base and fit around the Safety Pole. (See A.3.d.iii.)

2. **The Story about a character that is Foiled:**

a. Which character in your story is Foiled (prevented from succeeding)?

b. Briefly describe your Story, including what the character that is Foiled is trying to do and how that character is Foiled:

3. **Verses:** Indicate when each of the Verses will be presented during the Story and/or how the Appraisers will recognize them. You should submit at least one copy of the Verses to assist Appraisers.

a. Describe how the Appraisers can recognize the Team-Written Verse included in your Story.

b. Describe how the Appraisers can recognize the Published Verse written by non-team member(s) included in your Story.

c. List here a citation for the Published Verse that includes the author(s) and title, and other information that is available, such as the publisher, date of publication and Web site address (if from Internet source).

Author/Songwriter: \_\_\_\_\_ Title: \_\_\_\_\_

Publisher: \_\_\_\_\_ Date of Publication: \_\_\_\_\_

Web Site Address: \_\_\_\_\_

4. Briefly describe the prop or piece of scenery made only of Aluminum Foil, Wood and Glue.